MANUFACTURE OF TRIANGULAR TIES.

Mr. M. Macauley, of Portland, Oregon, describes in the Columbia River and Oregon Timberman the manufacture of triangular railway ties as practised by the John O'Brien Lumber Company, of Somers, Mont. This company is located in a large belt of timber, principally tamarac, well adapted for the manufacture of railroad ties. This timber is tributary to the Whitefish, Stillwater and Flathead rivers.

President Hill, of the Great Northern Railroad, who is interested in the company, while in Austria several years ago, became imbued with the advantages of the triangular tie over the square tie, and has been using a considerable number of these ties for several years in his system.

The mill differs but little from the ordinary sawmill, the only difference being that in order to produce triangular ties the square timber is transferred to bevelled rolls and re-sawed.

ADVANTAGES CLAIMED.—The triangular tie requires less timber to serve the same purpose as the ordinary square tie.

The ease with which the tie accommodates itself to the roadbed by reason of its V, or wedge-shaped, form, making it practically a self-tamping tie, at the same time offering a surface bearing on the rail equal to the square tie.

It is contended that the triangular tie is more durable and less liable to rot in the track
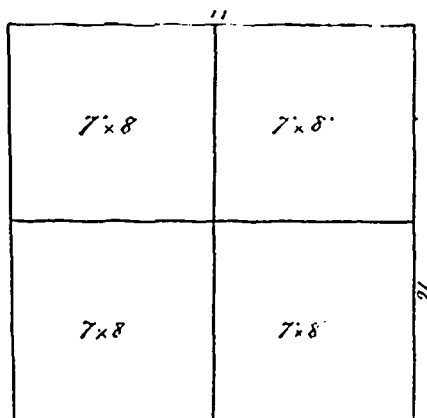
ORDINARY SQUARE TIE.

than the square tie, by reason of its form providing a natural watershed for the portion embedded in the track. This is obvious, there being a face of only three inches on each side before the acute angle of the tie is reached. On the square tie the water follows down the sides and lodges at the base, and every impact has a tendency to soften the ballast directly under the tie, and work loose the tamping, which is very noticeable at the extreme end of the ties, especially in the case of poor or soft ballasting.

DISADVANTAGES.—The triangular ties does not serve the purpose of the square tie, and from what I shall endeavor to show, are manufactured at a loss of timber, costing one-fourth more than the square tie.

To produce eight square ties 7″x8″x8 feet, it requires a timber 14″x16″x16 feet. To manufacture eight triangular ties 7″x8″x8 feet it requires a timber 14″x14″x16 feet, after making
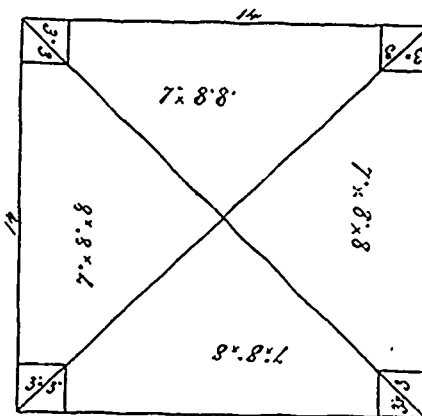
TRIANGULAR TIE.

allowance for saw kerf. A timber 14″x16″x16 feet containing 298 2-3 feet, makes eight square ties 7″x8″x8 feet, 37 1-3 feet each, equal to 298 2-3 feet. It is obvious there is no loss. To manufacture eight triangular ties 7″x8″x8 feet it requires a timber 14″x14″x16 feet, containing 261 1-3 feet, a gain in manufacturing triangular ties of 37 1-3 feet.

But while this gain appears, there is a loss of 48 feet in manufacturing eight triangular ties out of 14″x14″x16 feet timber. In order to give the ties an 8-inch face the timber loses four pieces 3″x3″x16 feet cut triangular, and instead of 32 2-3 feet in each triangular tie, there is but 26 2-3 feet, or a loss of 6 feet per tie.

Figuring this loss of 6 feet on the daily output of 1000 ties it means a loss of 6,000 feet of lumber. Computing the cost of 6,000 feet of lumber at $7.00 per 1000 feet, means $42.00 per day, or 4 1-5 cents additional to the cost of every triangular tie manufactured.

It is admitted, however, that the 3x3 edging cut triangular, as shown by the diagram, could be utilized in the manufacture of quarter-round moulding, but even this saving would not make up for the loss of six feet per tie as indicated above.

In this connection it may be stated that the size of logs from which the triangular ties are cut make practically only four ties each, the lumber on the outside being clear makes it available for moulding stock.

In the square tie 7″x8″x8 feet there is 37 1-3 feet, in the triangular tie there is 26 2-3 feet, a difference of 10 2-3 feet. It cannot be expected that the 7″x8″x8 feet triangular tie can serve the purpose of the square tie for solidity and safe-giving qualities.

The triangular tie splits more readily than the ordinary square tie, owing to the small body of timber available to receive the spike.

In laying the ties in a new piece of track their pyramidical form precludes their use without first ballasting to some extent, as the impact of the rolling stock on the rail has a tendency to cause ties to deflect from the perpendicular.

Before using the ties they are treated in the tie preserving plant, constructed adjacent to the mill, with a solution of zinc and glue, a treatment which it is claimed preserves the life of a tie from five to fifteen years.

After three years' experiment it may be of interest to note that the use of triangular ties fails to demonstrate any merit that would warrant their universal adoption.

SUPERIORITY OF B. C. SHINGLES.

That the British Columbia manufacturers produce a better shingle than the Washington mills, is admitted by the Pacific Coast Lumber Trade Journal, in which we find the following : " Without going into the merits of the controversy that has been raging at Olympia and other places in this state relative to the employment of Japanese shingle weavers, it can be truthfully stated that the Japanese crews employed in the British Columbia mills turn out a better grade of shingles than the white labor employed on this side of the line. The trouble with the latter is that there are too many individuals in the ranks of the white shingle weavers who labor by the sweat of their jaws and not their brow, and the result is that they will not do decent work. This is emphasized by recent strikes on Grays Harbor and in Skagit county, where the crews walked out in a body because the foremen insisted on better packing. It is no secret that the millmen have lost considerable business this year because of the loose and careless work done by the shingle weavers, and when prices are forced down by lack of demand due to slovenly methods of the packers and knotsawyers and wages are reduced because of it, the jawsmiths refuse to work or to allow others to labor also."

THE BIGGEST SPRUCE TREE.

It has been found again—that is, the biggest spruce tree on the coast. This time it is the real thing. No wonder it has grown to wondrous size, for it was found in God's valley, twelve miles from Nehalem, in Oregon. It is 21 feet in diameter, hence 63 feet in girth. It will have to be chopped down to count its rings to ascertain its age. It will now be in order to estimate how many feet of car siding could be made from it ; how many butter firkins ; how many apple boxes and how much sawdust would be wasted with a circular saw over a band saw.—West Coast Lumberman.